IN THE SPECIFICATION:

Please amend paragraph number **[0012]** as follows:

[0012] The present invention, in one embodiment, relates to a method of removing particulate debris and, more specifically, organic particulate debris from a registration mark on a semiconductor wafer. As used herein, the term "semiconductor wafer" refers to a conventional semiconductor wafer or other bulk substrate comprising a layer of semiconductor material. The term "bulk substrate" as used herein includes not only silicon wafers, but silicon on insulator (SOI) substrates, silicon on sapphire (SOS) substrates, epitaxial layers of silicon on a base semiconductor foundation and other semiconductor ~~materials~~ materials, such as silicon-germanium, germanium, gallium arsenide and indium phosphide. The method comprises providing a semiconductor wafer comprising at least one registration mark contaminated with undesired particles. The at least one registration mark may have a trench width from approximately 1.0 μm to approximately 3.0 μm. The semiconductor wafer is exposed to a cleaning solution comprising tetramethylammonium hydroxide and at least one surfactant that is an acetylenic diol surfactant, such as Surfynol® CT-131. The semiconductor wafer may be exposed to the cleaning solution by immersing the semiconductor wafer in the cleaning solution or by spraying the semiconductor wafer with the cleaning solution. The at least one surfactant may have a pH greater than approximately 7.5, such as a pH greater than approximately 9 or greater than approximately 10. The at least one surfactant may comprise from approximately 20% to approximately 50% ~~α-(nonylphenyl)-omega-hydroxy-branched~~ α-(nonylphenyl)-omega-hydroxy-branched poly (oxy-1,2-ethanediyl) and from approximately 2% to approximately 10% 2,4,7,9-tetramethyl-5-decyne-4,7-diol-ethoxylate. The semiconductor wafer is also exposed to an ultrasonic or megasonic vibrational energy in the presence of the cleaning solution.

Please amend paragraph number **[0022]** as follows:

[0022] The surfactant may be an anionic, nonionic, or cationic surfactant or a combination of anionic, nonionic, and/or cationic surfactants. The surfactant may be a surfactant

based on acetylenic diol chemistry, such as the Surfynol® series of surfactants, which are available from Air Products and Chemicals, Inc. (Allentown, PA). In one embodiment, the surfactant is Surfynol® CT-131. Surfynol® CT-131 is a solvent-free, nonionic/anionic grind aid and includes 52% active liquid. Surfynol® CT-131 is a proprietary surfactant blend that includes 20-50% α-(nonylphenyl)-omega-hydroxy-branched poly (oxy-1,2-ethanediyl) (CAS No. ~~68412-54-4)~~ 68412-54-4) and 2-10% 2,4,7,9-tetramethyl-5-decyne-4,7-diol-ethoxylate (CAS No. 126-86-3). The surfactant may be present in the cleaning solution from approximately 10 parts per million ("ppm") by weight to approximately 1000 ppm. If immersion cleaning is used to remove the organic particles 8, the surfactant may be present in the cleaning solution from approximately 100 ppm to approximately 1000 ppm. Desirably, the surfactant is present at approximately 100 ppm to approximately 300 ppm. If spray-cleaning is used, the surfactant may be present in the cleaning solution from approximately 10 ppm to approximately 100 ppm. The cleaning solution may have a pH of greater than approximately 7.5, such as a pH of greater than approximately 9 or a pH of greater than approximately 10.

Please amend paragraph number **[0026]** as follows:

[0026] In another embodiment, the semiconductor wafer 2 may be sprayed with the cleaning solution to remove the organic particles 8. The semiconductor wafer 2 may be rotated during spraying, such as from ~~approximately 5~~ approximately five revolutions per minute ("rpm") to approximately 500 rpm. The cleaning solution may contact the semiconductor wafer 2 by directing a spray, such as a high-pressure jet spray or a high-velocity aerosol spray, of the cleaning solution at the semiconductor wafer 2. For sake of example only, the high-pressure jet spray may be generated using a spray nozzle that includes a fine orifice and a pump. These nozzles are known in the art and are not described in detail herein. The high-velocity aerosol spray may be generated using a spray nozzle that includes a concentric or crossflow nebulizer. The high-velocity aerosol spray may include a carrier gas in addition to the cleaning solution. However, it is understood that other techniques of forming the spray may be used, as known in the art. The spray of cleaning solution may be delivered in any configuration, such as a needle

spray or a fan spray. A pressure at which the cleaning solution is applied to the semiconductor wafer 2 may be sufficient to remove the organic particles 8. For instance, if a high-pressure jet spray is used, the pressure may range from approximately 50 MPa to approximately 200 MPa. If a high-velocity aerosol spray is used, the pressure may range from approximately 50 m/sec to approximately 200 m/sec. The semiconductor wafer 2 may be exposed to the spray for a sufficient amount of time to remove the organic particles 8. It is understood that registration marks 4 having wider trench widths, such as 2.8 μm, may require shorter exposure times than those having narrow trench widths, such as 1.2 μm. Depending on the type of spray used and the trench width of the registration marks 4, the exposure time may range from approximately 30 seconds to approximately 300 seconds.